

NON-PUBLIC?: N
ACCESSION #: 8912130377
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Joseph M. Farley - Unit 1 PAGE: 1 OF 4

DOCKET NUMBER: 05000348

TITLE: Safety Injection Actuation and Reactor Trip Caused by Personnel
Error

EVENT DATE: 11/12/89 LER #: 89-006-00 REPORT DATE: 12/07/89

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 034

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: D.N. Morey, General Manager-Nuclear Plant TELEPHONE: 205-899-5156

COMPONENT FAILURE DESCRIPTION:

CAUSE: SYSTEM: COMPONENT: MANUFACTURER:

REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

At 1658 on 11-12-89, with the unit operating at 34% power, a safety injection and reactor trip were initiated due to low steam line pressure. Troubleshooting of an oscillation in the #3 turbine-generator governor valve was in progress. As part of troubleshooting this problem, a circuit card that controls the #3 governor valve was replaced with an improperly configured card. This caused the digital electro-hydraulic control (DEHC) system to open all three of the other governor valves. This in turn resulted in a decrease in steam line pressure. The rate of decrease caused the rate sensitive feature of the low steam line pressure safety injection to actuate an automatic safety injection and reactor trip. A Notification of Unusual Event was declared at 1658. The Notification of Unusual Event was terminated at 1900.

This event was caused by cognitive personnel error. The circuit card

that was installed for the #3 governor valve had been configured for the #4 governor valve.

The person involved has been counseled. As a further enhancement, when troubleshooting the DEHC system during power operation, the governor valve position limiter will be restricted to limit the amount of valve opening.

This LER also provides the Special Report information required by Technical Specification 3.5.2.

END OF ABSTRACT
TEXT PAGE 2 OF 4

Plant and System Identification

Westinghouse - Pressurized Water Reactor
Energy Industry Identification System codes are identified in the text as XX!.

Summary of Event

At 1658 on 11-12-89, with the unit operating at 34% power, a safety injection and reactor AB! trip were initiated due to low steam line pressure. Troubleshooting of an oscillation in the #3 turbine-generator TB! governor valve was in progress. As part of troubleshooting this problem, a circuit card that controls the #3 governor valve was replaced with an improperly configured card. This caused the digital electro-hydraulic control (DEHC) system to open all three of the other governor valves. This in turn resulted in a decrease in steam line pressure. The rate of decrease caused the rate sensitive feature of the low steam line pressure safety injection to actuate an automatic safety injection and reactor trip.

Description of Event

On 11-12-89, the unit was operating in steady state at 34% power. The #3 governor valve was closed with electro-hydraulic fluid isolated in order to troubleshoot problems with valve oscillation. As part of troubleshooting, a circuit card that controls the #3 governor valve was replaced. The card that was used for the #3 governor valve was configured for the #4 governor valve. This caused erratic DEHC output due to conflicting position information for the #4 governor valve.

As a result of the erratic DEHC output, the remaining three governor valves began rapidly ramping open. This caused the pressure in all three

steam lines to drop from about 880 psig to about 800 psig. The steam line low pressure safety injection/reactor trip actuated as required due to the rate sensitive feature of this protective function. A Notification of Unusual Event was declared at 1658.

Following the safety injection and reactor trip, the operators implemented FNP-1-EEP-0 (Reactor Trip or Safety Injection) and FNP-1-ESP-1.1 (SI Termination), ensuring that the unit was safely in Mode 3 (Hot Standby). The operating crew then entered FNP-1-UOP-1.3 (Startup of Unit Following An At Power Reactor Trip). The Notification of Unusual Event was terminated at 1900.

Cause of Event

This event was caused by cognitive personnel error. The circuit card that was installed for the #3 governor valve had been configured for the #4 governor valve.

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Reportability Analysis and Safety Assessment

This event is reportable because of the actuation of the safety injection system and the reactor protection system.

After the trip, the following safety systems operated as designed:

- main feedwater was isolated with flow control valves and bypass valves closed
- auxiliary feedwater pumps started automatically and provided flow to the steam generators
- source range nuclear instrumentation automatically energized
- pressurizer heaters and spray valves operated automatically as required to maintain system pressure.

As a result of the safety injection, the following safety systems actuated as designed:

- the second train of high head safety injection started and both trains injected water into the RCS
- the low head safety injection pumps started
- the second train of component cooling water started
- the containment mini-purge fans were secured and the mini-purge dampers closed
- containment phase A isolation was actuated
- containment fan coolers shifted to slow speed operation

- diesel generators 1-2A, 1B, 1C and 2C started
- post-LOCA air mixing fans started
- reactor cavity hydrogen dilution fans started.

There was no effect on the health and safety of the public.

Corrective Action

The person involved has been counseled. As a further enhancement, when troubleshooting the DEHC system during power operation, the governor valve position limiter will be restricted to limit the amount of valve opening.

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Additional Information

After replacing the circuit card and replacing the MOOG valve that caused the oscillation, the unit returned to power operation on 11-14-89 at 1502.

No similar LERs have been submitted by Farley Nuclear Plant.
No components failed during this event.

The event would not have been more severe if it had occurred under different operating conditions.

In accordance with Technical Specification 3.5.2 Action Statement b, the following information is provided. The maximum number of occurrences of actuation of Safety Injection considered in the Westinghouse design transient analyses is 50. There have been a total of 19 safety injections on Unit 1. There have been nine inadvertent safety injections to date in all modes. Five of these inadvertent safety injections were actuated while in Modes 1, 2 or 3 (average reactor coolant system temperature above 350 degrees F). There have been ten intentional safety injections while performing surveillance testing during refueling outages.

ATTACHMENT 1 TO 8912130377 PAGE 1 OF 1

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W. G. Hairston, III

Senior Vice President
Nuclear Operations
Alabama Power

the southern electric system
10CFR50.73

December 7, 1989

Docket No. 50-348

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Dear Sir:

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 89-006-00

Joseph M. Farley Nuclear Plant, Unit 1 Licensee Event Report No. LER
89-006-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Respectfully submitted,

W. G. Hairston, III
WGH,III/JAR:md 8.52

Enclosure

cc: Mr. S. D. Ebnetter
Mr. G. F. Maxwell

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